

CLAIMS

1. A color image forming apparatus in which on
photosensitive drums or belts of n ($n \geq 2$) pieces
corresponding to respective colors are formed
5 respective latent images by irradiation of laser beams
comprising,

a semiconductor laser array of which laser beam
emitting points are arranged m ($m \geq 2$) in the row
direction thereof and n in the line direction thereof
10 as the same number of the photosensitive drums or belts;

a beam splitting means which splits the respective
laser beams for every lines on the semiconductor laser
array so that m laser beams emitted from one of the rows
on the semiconductor laser array scan a same
15 photosensitive drum or belt among thereof; and

a beam deflection means which deflects in common
 n laser beams for every lines emitted from the
semiconductor laser array and irradiates the same onto
the respective photosensitive drums or belts,

20 wherein, the arrangement direction of m beam spots
irradiated onto one of the photosensitive drums or belts
is inclined by an angle $\alpha/2$ with respect to the main
scanning direction.

2. A color image forming apparatus in which on
25 photosensitive drums or belts of n ($n \geq 2$) pieces
corresponding to respective colors are formed
respective latent images by irradiation of laser beams

comprising,

a first semiconductor laser array and a second semiconductor laser array each of which laser beam emitting points are arranged m ($m \geq 2$) in the row direction thereof and $n/2$ in the line direction thereof as the half number of the photosensitive drums or belts;

a first beam splitting means which splits the respective laser beams for every lines on the semiconductor laser array so that m laser beams emitted from one of the rows on the first semiconductor laser array scan a same photosensitive drum or belt among thereof;

a second beam splitting means which splits the respective laser beams for every lines on the semiconductor laser array so that m laser beams emitted from one of the rows on the second semiconductor laser array scan a same photosensitive drum or belt among thereof; and

a beam deflection means which deflects at different faces thereof n laser beams for every lines emitted from the first semiconductor laser array and the second semiconductor laser array, and irradiates the same onto the respective photosensitive drums or belts,

wherein, the arrangement direction of m beam spots irradiated onto one of the photosensitive drums or belts is inclined by an angle α_2 with respect to the main scanning direction.

3. A color image forming apparatus in which on

photosensitive drums or belts of n ($n \geq 2$) pieces corresponding to respective colors are formed respective latent images by irradiation of laser beams comprising,

5 a semiconductor laser array of which laser beam emitting points are arranged m ($m \geq 2$) in the row direction thereof and $n/2$ in the line direction thereof as the half number of the photosensitive drums or belts;

10 a beam splitting means which splits the respective laser beams for every lines on the semiconductor laser array so that m laser beams emitted from one of the rows on the semiconductor laser array scan a same photosensitive drum or belt among thereof; and

15 a beam deflection means which deflects in common $n/2$ laser beams for every lines emitted from the semiconductor laser array and irradiates the same onto the respective photosensitive drums or belts,

20 wherein, the arrangement direction of m beam spots irradiated onto one of the photosensitive drums or belts is inclined by an angle α_2 with respect to the main scanning direction.

25 4. A color image forming apparatus according to claim 1, wherein the semiconductor laser array being inclined as a whole by an angle α_1 so that the arrangement direction of m beam spots irradiated on the photosensitive drums or belts is inclined by the angle α_2 ($\alpha_1 = \alpha_2$) with respect to the main scanning direction.

5. A color image forming apparatus according to claim 2, wherein the semiconductor laser array being inclined as a whole by an angle $\alpha 1$ so that the arrangement direction of m beam spots irradiated on the photosensitive drums or belts is inclined by the angle $\alpha 2$ ($\alpha 1 = \alpha 2$) with respect to the main scanning direction.

6. A color image forming apparatus according to claim 3, wherein the semiconductor laser array being inclined as a whole by an angle $\alpha 1$ so that the arrangement direction of m beam spots irradiated on the photosensitive drums or belts is inclined by the angle $\alpha 2$ ($\alpha 1 = \alpha 2$) with respect to the main scanning direction.

7. A color image forming apparatus according to claim 1, wherein the alignment in the row direction of the light emitting points being inclined with respect to the alignment in the line direction by an angle $(90^\circ - \alpha 3)$ so that the arrangement direction of m beam spots irradiated on the photosensitive drums or belts is inclined by the angle $\alpha 2$ ($90^\circ - \alpha 3 = \alpha 2$) with respect to the main scanning direction.

8. A color image forming apparatus according to claim 2, wherein the alignment in the row direction of the light emitting points being inclined with respect to the alignment in the line direction by an angle $(90^\circ - \alpha 3)$ so that the arrangement direction of m beam spots irradiated on the photosensitive drums or belts is inclined by the angle $\alpha 2$ ($90^\circ - \alpha 3 = \alpha 2$) with respect to

the main scanning direction.

9. A color image forming apparatus according to claim 3, wherein the alignment in the row direction of the light emitting points being inclined with respect to the alignment in the line direction by an angle $(90^\circ - \alpha_3)$ so that the arrangement direction of m beam spots irradiated on the photosensitive drums or belts is inclined by the angle α_2 ($90^\circ - \alpha_3 = \alpha_2$) with respect to the main scanning direction.